

# MSC Guidelines for Review of Stability for Uninspected Tugboats (C)

Procedure Number: H1-04

Revision Date: 3/21/00

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## References

- a. 46 CFR Subchapter S, Part 173, Subpart E
  - b. McGowan and Meyer, "Has Stability Delayed the Delivery of Your Tug?" Marine Technology, January 1980, Society of Naval Architects and Marine Engineers
  - c. 46 CFR Subchapter E, Subpart 42.09
  - d. COMDTINST M16000.9, Marine Safety Manual, Vol. IV, Section 6.C.1
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## Disclaimer

These guidelines were developed by the Marine Safety Center staff as an aid in the preparation and review of vessel plans and submissions. They were developed to supplement existing guidance. They are not intended to substitute or replace laws, regulations, or other official Coast Guard policy documents. The responsibility to demonstrate compliance with all applicable laws and regulations still rests with the plan submitter. The Coast Guard and the U. S. Department of Transportation expressly disclaim liability resulting from the use of this document.

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## Contact Information

If you have any questions or comments concerning this document, please contact the Marine Safety Center by e-mail or phone. Please refer to the Procedure Number: **H1-04**

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## General Review Guidance

If the vessel's stability is being reviewed under Navigation and Vessel Inspection Circular (NVIC) No. 3-97, "Stability Related Review Performed by the American Bureau of Shipping for U.S. Flag Vessels," then MSC review of stability items is not required.

Check that the following items are included in the submittal package:

- General Arrangement, and profiles (with compartmentation)
  - Lines plan or model on computer disc (GHS is preferred)
  - Hydrostatics or Curves of Form
  - Tank Capacity Tables
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Fixed Ballast Plan or Listing (if applicable)

- ❑ Ensure that fixed ballast shown on ballast plan or listing matches fixed ballast used in light ship calculation.

Geometric Load Line Assignment

Calculation of light ship values from stability test data

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## Intact Stability

Check that the following items are included in the submittal package:

- ❑ Calculations demonstrating compliance with 46 CFR 170.170 (Weather Criteria)
- ❑ Calculations demonstrating compliance with 46 CFR 174.145 (Righting Energy Criteria)
- ❑ Calculations demonstrating compliance with 46 CFR 173.095. (Towline Pull Criteria)
- ❑ Location of downflooding points

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## Crane/Lifting

If the vessel equipped with a crane, submit calculations showing that the crane heeling moment is less than  $(0.67)(W)(GM)(F/B)$  for all probable load conditions (see 46 CFR 173.005(b)).

If the crane heeling moment is greater than  $(0.67)(W)(GM)(F/B)$  submit calculations for lifting: 46 CFR 173.005, .007, .010, and .025.

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## Hull Model

The MSC will generate a hull model from the lines, offsets or provided computer disk using GHS to verify the stability of the vessel.